

**Remarks**

This Amendment is responsive to the August 17, 2007 Office Action. Reexamination and reconsideration of **claims 1-27 and 29-36** is respectfully requested.

**Summary of The Office Action**

**Claims 13-30** were rejected under 35 USC 101 because the claimed invention is purportedly directed to non-statutory subject matter.

**Claims 1-9** were rejected under 35 U.S.C. §102(b) as being anticipated by Roy et al. (US 2002/0062366)(Roy).

**Claim 12** was rejected under 35 U.S.C. §102(b) as being anticipated by Roy.

**Claims 13, 15-29, and 31-26** were rejected under 35 U.S.C. §102(b) as being anticipated by Roy.

**Claim 14** was rejected under 35 U.S.C. §103(a) as being unpatentable over Roy as applied to claim 13 above, and further in view of Wu (US 5185860)(Wu).

**Claims 10 and 30** were rejected under 35 U.S.C. §103(a) as being unpatentable over Wu in view of Roy.

**Claim 11** was rejected under 35 U.S.C. §103(a) as being unpatentable over Wu and Roy as applied to claim 10 above, and further in view of Moetteli (US 2002/0049809)(Moetteli).

**The Claims Recite Patentable Subject Matter Under 35 U.S.C. §101**

**Claims 13-30** were rejected under 35 USC 101 because the claimed invention is purportedly directed to non-statutory subject matter. This set of claims includes independent claims 13, 26, and 30. The Office Action recites that “the result is useful and concrete but is not tangible. The mere act of determining ... or the mere act of selectively updating ... does not produce a tangible result.” (Office Action, page 2). Applicant submits that this is incorrect. In claim 13, the act of updating the pairing data causes a physical transformation of the pairing data in a physical memory. Similarly, independent claims 26 and 30 produce tangible results because of the updating of data that is stored in a tangible medium (e.g., memory, computer-readable medium). The specification recites that the “binding information like an IP address and a MAC address associated with the discovered device ... may be stored, for example, in a pairing table that is stored in a memory, a register, a file, a logic, and so on.” Page 2, paragraph 12. Since the pairing data is stored in a physical media, updating the pairing data will cause a transformation in the physical media. The updating in claims 13, 26, and 28 inherently includes the step of “storing the pairing data in, for example, a computer memory.” To make this more clear, claim 26 has been amended to include the action of “storing the pairing data in a computer memory.”

Updating a physical memory satisfies the tangible results required for 35 U.S.C. 101. The U.S. Patent Office’s Board of Patent Appeals and Interferences has stated that physical subject matter includes both tangible and intangible matter, and includes electrical signals. Ex parte Bilski, Board of Patent Appeals and Interferences, Appeal number 2002-2257, (Sept. 26, 2006), see pages 6, 17, 27, 37, and 38. The updated data is clearly an electrical signal that must be stored in a tangible medium. The data cannot exist in a vacuum and must be physically stored somewhere (e.g., computer memory, computer-readable medium). The act of updating the data will cause a physical transformation which is, by definition, tangible. Concerning the error made by not treating the electrical signals as physical matter, The Bilksi panel wrote:

“This perpetuates the misunderstanding that “transformation requires transformation of a tangible object or article, contrary to cases that explain that the subject matter transformed can be physical, yet intangible, phenomena such as electrical signals. See *In re Schrader*, 22 F.3d 290, 295 n.12, 30 UPSQ2d 1455, 1459 n.12 (Fed. Cir. 1994)...” *Id.* at 37.

"... Thus, it is apparent that changes to intangible subject matter representative of or constituting physical activity or objects are included in this definition"); citing Lundgren, 76 USPQ2d at 1398-99. Id. at 37. [Emphasis in original]

Claims 26 and 28 were also rejected under 35 USC 101 because the claimed invention, a computer-readable medium, was defined to include carrier waves. The definition of computer-readable medium has been amended to delete carrier waves. Therefore Applicant respectfully requests that this rejection be withdrawn.

### **The Claims Patentably Distinguish Over the References of Record**

#### **35 U.S.C. §102**

For a 35 U.S.C. §102 reference to anticipate a claim, the reference must teach every element of the claim. Section 2131 of the MPEP recites:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Here, Roy does not teach at least one element of each of the independent claims. Therefore Roy does not establish a prima facie case of anticipation for any of the independent claims or the claims that depend from them. Roy fails to teach, among other things, a logic to determine whether pairing data should be updated, a logic to selectively update pairing data, and performing rediscovery in a strong discovery then weak discovery order. These deficiencies will be examined in greater detail below on a claim by claim basis.

**Claims 1-9** were rejected under 35 U.S.C. §102(b) as being anticipated by Roy.

#### **Independent Claim 1**

This claim includes a "logic to determine whether pairing data should be updated". A logic is hardware, software, firmware, and/or combinations thereof. Roy describes user-

initiated discovery. “A user on the network with a Hypertext Transfer Protocol (HTTP) client 15, or web browser, wishes to find either all devices that reside on the network 45, or those of a specified class...” (Page 2, [0022]) The claim describes a “client-side auto-rediscovery system”. Roy describes a “system network device location that provides a faster and more exhaustive search which supplements the basic UDP broadcast and responses” (Page 1, [0007]). The reference produces a system for quickly and efficiently cataloging all devices of a certain type on a network, but only at the behest of a user. The claim performs re-discovery automatically while Roy performs discovery after a manual action. For at least this reason Roy does not anticipate this claim, leaving the claim in condition for allowance. Accordingly, claims 2-9, which depend from claim 1, are also not anticipated and in condition for allowance.

#### Dependent Claim 7

This claim further characterizes the logic that determines whether to update the pairing data. This claim characterizes the logic as being “configured to generate a unicast simple network management protocol (SNMP) GET message to be delivered from the service requesting networked device to the service providing networked device.” Thus, this claim describes “strong rediscovery”. Roy describes “weak discovery” that is achieved by broadcasting a request. Roy also performs “weak rediscovery” where a broadcast message may include a list of network addresses of known devices. This message may be intended to prevent known devices from replying so that only unknown devices will respond, thus reducing overall network traffic. This may prevent responses from devices from overflowing buffers at various levels of network protocol (page 1, [0011]). While useful, this approach is irrelevant to this claim. This claim seeks to reestablish connection ([0013]) with a single device without user input ([0013]) and to do so using a unicast message. Therefore Roy does not anticipate this claim since it describes neither automatic rediscovery nor rediscovery using strong (e.g., unicast) rediscovery. For at least these reasons this claim is not anticipated and is in condition for allowance.

Dependent Claim 8

This claim even further characterizes the logic that determines whether to update the pairing data. This claim further characterizes the logic as being “configured to selectively generate a multicast SNMP GET message to be delivered to a plurality of service providing networked devices.” This claim has been amended to make more clear that there is a strong discovery, weak discovery sequence. Thus, this claim describes “strong rediscovery” being followed by weak discovery only after the strong rediscovery fails. Roy describes only “weak discovery.” Therefore Roy does not anticipate this claim since it describes neither automatic rediscovery nor rediscovery using strong (e.g., unicast) rediscovery only selectively followed by weak (e.g., broadcast) rediscovery. For at least these reasons this claim is not anticipated and is in condition for allowance.

Independent Claim 12

This claim was rejected under 35 U.S.C. §102(b) as being anticipated by Roy. This claim describes “means for selectively performing automatic strong discovery to rediscover the service providing network device based on the weak discovery and selectively updating the pairing data based on the strong discovery.” By contrast, Roy appears to use manually initiated weak discovery to discover all service providing devices on the network and then to use strong discovery to fill in missing information, but not to do anything concerning updating pairing data. This claim describes using weak discovery to re-discover previously known service providing devices and then using strong discovery to update the pairing data with current information. Roy describes only manually initiated weak discovery. For at least these reasons this claim is not anticipated and is in condition for allowance.

**Claims 13, 15-29, and 31-36** were rejected under 35 U.S.C. §102(b) as being anticipated by Roy. This set of claims includes independent claims 13, 26, and 31. Claims 15-25 depend from claim 13, claims 27-29 depend from claim 26, and claims 32-36 depend from claim 31. Therefore, all the dependent claims can be shown to be not anticipated by addressing the independent claims.

Independent Claim 13

This claim describes a “client-side auto-rediscovery method”. The method includes first determining whether to perform a rediscovery process and then performing the process by requesting binding data, receiving binding data, and selectively updating a pairing data based on the received binding data. In contrast, Roy appears to send out broadcast messages to acquire pairing data from as many networked devices as it can find in response to a user-initiated request to do initial discovery. The contrast between the claim and the reference is that the claim performs automatically initiated strong rediscovery while the reference performs human-initiated weak discovery. For at least these reasons the claim is not anticipated by the reference, leaving the claim in condition for allowance. Accordingly, claims 15-25 are also not anticipated and are in condition for allowance.

Dependent Claim 16

This claim further characterizes the action of “determining whether to perform” the process. This claim recites that “determining whether to perform the process includes requesting the binding data from the second networked device via a uni-cast message.” This is strong discovery and it is clearly performed first, before any weak discovery is performed. Therefore, claim 16 includes the elements of automatically doing strong discovery first and then performing additional discovery based on the results of the strong discovery. Since Roy does not even describe doing automatic rediscovery, it follows that Roy also does not describe automatically doing strong discovery first. For at least this additional reason this claim is not anticipated and is in condition for allowance.

Independent Claim 26

This claim describes a computer-readable medium that stores processor executable instructions that are operable to perform a client-side auto-rediscovery method. Roy describes a method for doing manual initial discovery and then manual rediscovery. The method includes first determining whether to perform a process that relates a first device to a second device. This determination may be based on strong rediscovery. Roy merely describes weak initial discovery followed by additional weak discovery where some devices

are encouraged not to respond to reduce overall network traffic. For at least this reason this claim is not anticipated and is in condition for allowance.

#### Independent Claim 31

This claim describes a client-side auto-rediscovery method. Roy describes a manually-initiated discovery method. The Office action asserts that Roy would “re-discover” devices when the HTTP client makes subsequent requests to a management device. (Office Action, page 8, paragraph 31). However, even if such “rediscovery” occurs, it will only do so after a manual request to do so. The method described in Roy will forward information back to an HTTP client based on what devices it discovers. Note that this is discovery performed in response to a manual request, not automatic rediscovery initiated when a service requesting device makes a request from a service providing device. Roy employs a “management device” to send out customized broadcast messages to do its discovery. This claim describes no such management device. Instead, this claim describes directly re-discovering and reconnecting to previously known devices on its own, without a user-initiated request to do so.

This claim recites “selectively re-discovering a second connection to the service providing networked device”. The selective re-discovering occurs based on the result of a validation of the stored connection that occurs “upon the service requesting networked device making a request for a service from the service providing networked device.” These elements clarify a distinction between the claim and the reference. The claim describes a rediscovery method that is performed when a first device wants a second device to perform a service. It is done on a per-request basis. The reference is trying to set up a table before any requests are made. The table is useful, but it can get out of date. Thus, this claim describes checking to see whether the stored data is correct when requests for service are made. If the data is not correct, then it can be corrected. No such correcting is described in the reference. For at least these reasons this claim is not anticipated by the reference and is in condition for allowance.

**Dependent Claim 34**

This claim further characterizes the validation action. The claim recites that “validating the stored connection ... comprises sending a uni-cast SNMP GET message...” Therefore this claim clearly describes that the validation involves selective strong discovery via a uni-cast message. The reference describes non-selective weak discovery using a broadcast message. For at least this additional reason this claim is not anticipated by the reference and is in condition for allowance.

**Dependent Claim 35**

This claim further characterizes the selective re-discovery process. This claim describes how the selective re-discovery involves a broadcast or multicast message. Thus, the combination of claims 34 and 35 clearly spells out that a strong discovery, weak discovery sequence will be carried out if the strong discovery fails to provide the desired information. The reference describes no similar sequence and thus this claim is not anticipated by the reference for at least this additional reason.

**35 U.S.C. §103**

To establish a prima facie case of 35 U.S.C. §103 obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP 2143.01 Second, there must be a reasonable expectation of success. MPEP 2143.02 Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143.03 Additionally, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). This requirement is intended to prevent unacceptable “hindsight reconstruction” where Applicant’s invention is recreated from references using the Application as a blueprint.



Here, the criteria described in MPEP 2143.03 is not satisfied since the combination of references does not teach or suggest all the claim limitations. None of the references, alone and/or in combination, teach automatic client-side rediscovery. Additionally, none of the references, alone and/or in combination teach automatic client-side rediscovery that uses a strong discovery, weak discovery sequence where the weak discovery is only selectively performed based on the result of the strong discovery. Thus, none of the claims are obvious for at least this reason. Individual claims will be distinguished below.

#### Dependent Claim 14

This claim was rejected under 35 U.S.C. §103(a) as being unpatentable over Roy as applied to claim 13 above, and further in view of Wu. This claim depends from claim 1, which has been shown to be not anticipated by Roy. Therefore this claim cannot be obvious over the same primary reference.

Claim 14 includes the additional element of periodically performing the process. Note that the process is performed by a client-side auto-rediscovery system. Neither Roy nor Wu perform client-side processing but rather manipulate tables for an entire network. The periodic element described in claim 14 reinforces the fact that claim 1 is an automatic process while Roy describes a user-initiated process. The Office Action acknowledges that Roy does not teach the periodic determination. Therefore the Office Action relies on Wu for the proposition that “the general concept of updating address tables periodically is well known in the art.” (Office Action, page 10) Wu unquestionably describes periodic updating when it describes how “the process of querying discovery agents to obtain a list of nodes known to the discovery agents is repeated at time intervals.” (Abstract) However, this updating involves traditional broadcast weak discovery with no apparent unicast strong discovery for specific devices. Therefore, Wu does not remedy the initial defects in Roy, which include requiring a user-initiated event to begin its process and then only performing traditional weak discovery. For at least this reason this claim is not obvious over the combination of references and therefore the claim is in condition for allowance.

**Claims 10 and 30** were rejected under 35 U.S.C. §103(a) as being unpatentable over Wu in view of Roy.

Independent Claim 10

This claim recites a client-side auto-rediscovery system. Neither Roy nor Wu describe client-side rediscovery. Both references appear to describe network-wide table updating. Roy attempts to find unknown devices by contacting a known device in a network and having that known device locate unknown devices by means of a broadcast request. Wu also employs “discovery agents” that perform network-wide weak discovery. While useful, neither of these references, alone and/or in combination, describes a strong discovery, weak discovery sequence with the weak discovery being selectively performed based on the result of strong discovery as claimed and described. For at least these reasons this claim is not obvious over the combination of references and is in condition for allowance.

Independent Claim 30

This claim describes a client-side auto-rediscovery method. Neither of the references performs “client-side” work. Instead, both references appear to maintain binding tables for an entire network. Claim 30 recites that a determination concerning whether to perform a rediscovery process is performed on a per service request basis. Wu describes periodically using discovery agents to update network tables and Roy describes user-initiated initial discovery of a set of devices all belonging to a similar class. Thus, neither Roy nor Wu, alone and/or in combination, teach client-side rediscovery on a per service request basis. For at least this reason this claim is not obvious over the combination of references and is in condition for allowance.

**Claim 11** was rejected under 35 U.S.C. §103(a) as being unpatentable over Wu and Roy as applied to claim 10 above, and further in view of Moetteli. Claim 11 depends from claim 10, which has been shown to be not obvious over Wu and Roy. Therefore claim 11 also cannot be obvious over the same combination of references. Additionally, claim 11 recites that the data store in which the IP address and MAC address associated with the

service providing networked device are stored is an XML file. The Office Action acknowledges that neither Wu nor Roy disclose storing their data in an XML file. Therefore the Office Action relies on Moetteli for the proposition that “XML is a substitute for HTML”.

While it is true that XML may sometimes be used in place of HTML, that point is irrelevant to the claimed element of storing the IP/MAC pair in an XML file. Neither Wu nor Roy describe storing the IP/MAC pair in any file, let alone an XML file. Moetteli generally describes XML, but does not describe storing the IP/MAC pair in an XML file. For at least this reason the combination of references does not make out a prima facie case for obviousness leaving this claim in condition for allowance.


**References Cited But Not Applied**

The references cited but not applied have been considered and do not teach or suggest the recited features of the respective claims, individually or in combination with each other. Therefore, all claims are in condition for allowance.

**Conclusion**

For the reasons set forth above, **claims 1-27 and 29-36** patentably and unobviously distinguish over the references and are allowable. An early allowance of all claims is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Peter Kraguljac", is written over a horizontal line.

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